Aberjona River

Industri-Plex and Wells G & H Superfund Sites, Woburn, MA

October 2004

EPA Releases Revised Baseline Risk Assessment for the Aberjona River Study Area

In June 2004, EPA responded to public comments on the draft Baseline Human Health and Ecological Risk Assessments for the Aberjona River Study Area which extends from Route 128 in Woburn, MA to the Upper and Lower Mystic Lakes in Arlington, MA. The two risk assessments, collectively referred to as the Baseline Risk Assessment (BRA), evaluated contamination in the surface water, sediment, floodplain surface soil, and biota in the Aberjona River, its floodplains and wetlands. The objective of the risk assessments is to determine whether contamination within the study area poses a risk to human health and the environment.

In response to the public comments, EPA evaluated a limited amount of additional data. These sampling locations are identified on the attached *Additional Sampling Locations* figure, and included:

- sediment and floodplain surface soil from the Aberjona River south of Bacon Street in Winchester, identified as station AJRW, and sediment from the Aberjona River north of Olympia Avenue, identified as MC-13;
- baseflow and storm event surface water data from six gauging stations along the length of the study area, identified as stations SW-05 through SW-10; and,
- sediment core data collected from nine locations along the length of the study area, identified as stations SC05 through SC13.

Using this additional data, and EPA's updated software program ProUCL (version 3.0), EPA recalculated the exposure point concentrations at each sampling station in the study area.

The results of this additional evaluation are comprehensively presented in the revised BRA and summarized below:

- The sediment stations where risks to the public were found to exceed EPA's human health risk management guidelines have remained the same. These stations are located near the former production well H and the former cranberry bog in Woburn. Specifically, the stations are WH and CB-03 for exceedances of current risk, and stations WH, CB-03, 13/TT-27, NT-1, NT-2 and NT-3 for exceedances of potential future risk. These stations are identified on the attached figure, ES-1.
- The sediment stations where risks to ecological receptors were found to exceed thresholds for adverse effects have remained the same. As shown on figure ES- 3, the highest risks to ecological receptors are found in reach 1, the Wells G & H 38-acre wetland, and in reach 2, the former cranberry bog, in Woburn.
- At three of the new sediment core locations, SC05,

(over)

Additional Information

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Copies of the
Revised Baseline Human Health and Ecological Risk Assessment
are available at the following locations:

Woburn Public Library
45 Pleasant St.
Woburn, MA

Winchester Public Library
80 Washington St.
Winchester MA

the report can also be found on EPA's web site:

www.epa.gov/ne/superfund/sites/wellsgh/213053.pdf

SC06 and SC08 in the Wells G&H 38-acre wetland, risks to human health were found to exceed EPA's human health risk management guidelines for workers who might be exposed to the sediment during future dredging activities. These sediment core locations are shown on figure ES-1.

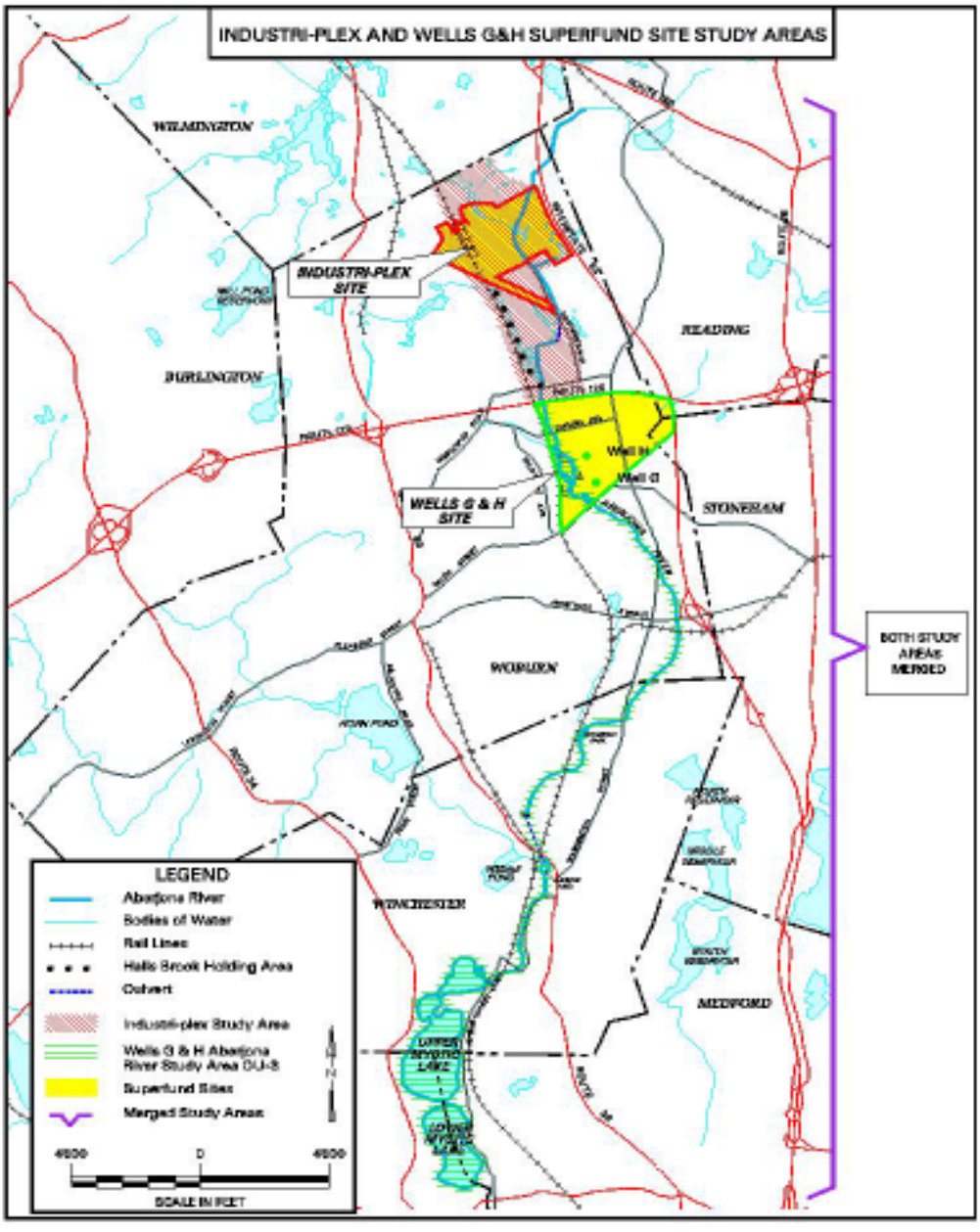
- At four of the new sediment core locations, SC05 through SC08 in the Wells G&H 38-acre wetland, risks to ecological receptors were found to exceed EPA's acceptable ecological risk thresholds at the 0-1 foot interval. This is consistent with the conclusions in the draft ERA for reach 1.

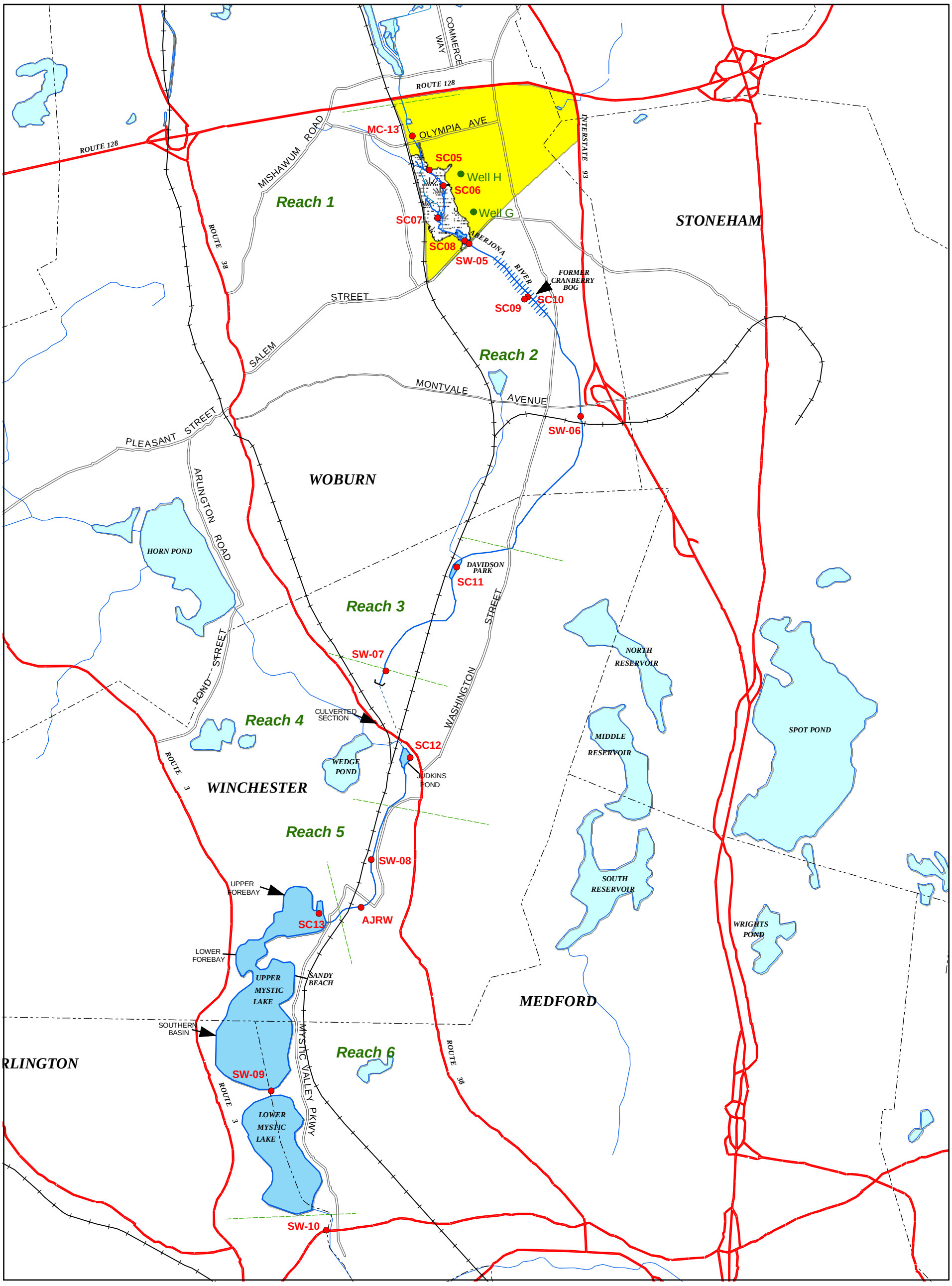
- At the remaining sediment and sediment core stations, as well as the base flow and storm event surface water stations, an evaluation of the additional data shows that both human health risks (including human health exposures to surface water during flooding events) and ecological risks were within or below EPAs risk management guidelines.

Next Steps: EPA is also conducting a Baseline Risk Assessment for the Industri-plex Study Area, shown in the figure below. A final risk assessment for the combined study areas will be presented in a comprehensive Remedial Investigation Report which evaluates all data; the movement of contaminants within the environment; and any potential risk associated with these contaminants. This report is expected to be completed later this Fall and will be used to formulate a comprehensive strategy to address human health and ecological risks from the Industri-Plex Superfund Site to the Mystic Lakes.

The Aberjona River Study area extends from Route 128 in Woburn to the Upper and Lower Mystic Lakes in Arlington. The study area includes a six-mile reach of the nine-mile-long Aberjona, the Wells G&H 38-acre wetland south of Olympia Avenue, the 17-acre former cranberry bog south of Salem Street, the upper and lower forebays (the two northern basins) of Upper Mystic Lake, the southern basin of Upper Mystic Lake, and Lower Mystic Lake.

EPA is also conducting a Baseline Risk Assessment for the Industri-plex Study Area, indicated in red hash marks in the figure to the right. A final risk assessment for the combined study areas will be presented in the comprehensive Remedial Investigation Report. This report is expected to be completed later this Fall.





LEGEND

- Rail Lines
- Study Area Reach
- Culvert
- Wetlands
- Former Cranberry Bog
- Wells G & H Superfund Site
- Well Location
- Sample Location
- Aberjona River
- Bodies of Water

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Metcalf & Eddy

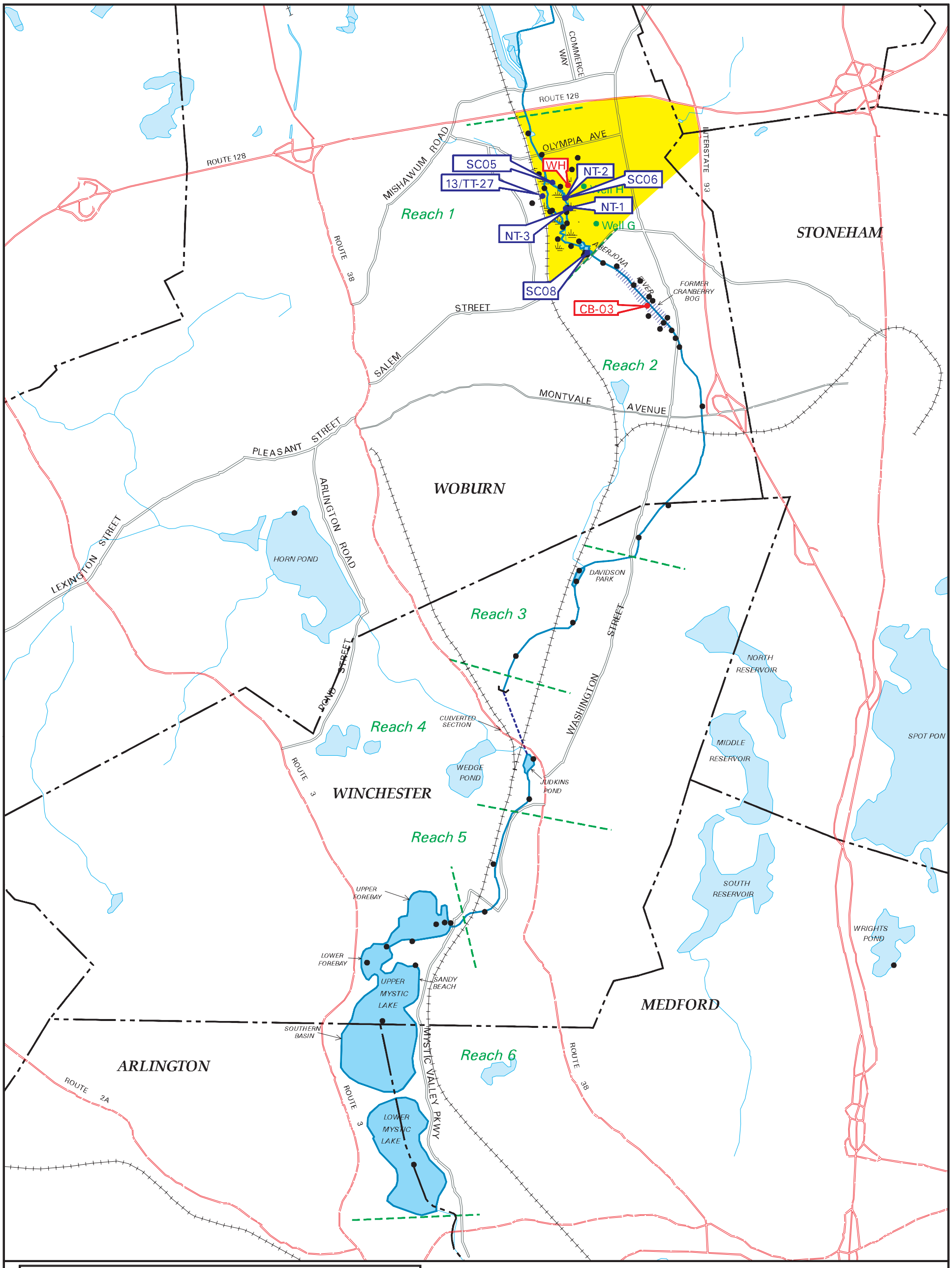
N

0 1,250 2,500 5,000

Feet

ADDITIONAL SAMPLING LOCATIONS

WELLS G & H SUPERFUND SITE OU3



LEGEND

- Well Location
- Sample Station
- Stations with Current and Future Risk (a)
- Stations or Sediment Core Locations with Future Risk Only (a)
- Aberjona River
- Bodies of Water
- Rail Lines
- Study Area Reach
- Culvert
- Wetlands
- Former Cranberry Bog
- Wells G & H Superfund Site

(a) Exceeds either a cancer risk of 1E-04 or a target organ HI of 1

Metcalf & Eddy

N

2500 0 2500

SCALE IN FEET

FIGURE ES-1.

HUMAN HEALTH

CURRENT AND FUTURE RISK

SAMPLING STATIONS

WELLS G&H SUPERFUND SITE OU3

ou3risk2a

READING

STONEHAM

WOBURN

WINCHESTER

ROUTE 128

MISHAWUM ROAD

OLYMPIA AVE

INTERSTATE 93

ABERJONA RIVER

SALEM STREET

MONTVALE AVENUE

FORMER CRANBERRY BOG

Reach 1

Reach 2

Reach 6

Well H

Well G

NRSE
B M D

TT-28
B M D

WH
B M D

13
B M D

21
B M D

12
B M D

TT-29
B M D

BW
B M D S

19
B M D

15
B M D

20
B M D S

11
B M D

18
B M D

TT-30
B M D

WW
B M D

10
B M D

WS
B M D

CB-03
B M D S

TT-32
B M D

TT-33
B M D

LOCATIONS IN REACH 6

4
B M

UM
B

WINCHESTER

UPPER MYSTIC LAKE

ARLINGTON

MEDFORD

N

1000 0 1000

SCALE IN FEET

LEGEND

- Well Location
- Sample Station with Risk
- Sample Station
- Aberjona River
- Bodies of Water
- Rail Lines
- Study Area Reach
- Wetlands
- Former Cranberry Bog
- Wells G & H Superfund Site

Risk To:

B - Benthos
M- Muskrat
D - Mallard
S - Shrew

Risk From:

- Arsenic
- Copper
- Chromium
- Mercury
- Lead

FIGURE ES-3.

SUMMARY OF RECEPTOR RISKS

ECOLOGICAL RISK ASSESSMENT

WELLS G&H SUPERFUND SITE

ABERJONA RIVER (OPERABLE UNIT 3)

Metcalf & Eddy

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